

IN THE CLAIMS

1. (Currently Amended) A metalworking fluid from heavy alkylate, comprising;

(a) residual fraction having ~~C20 to C22~~ C22 - C26 carbon atom of detergent class Alkyl Benzene in the concentration range of 50 to 90 weight percent of the metal working fluid, (b) at least one emulsifier in the range of 10 to 40 weight percent of the metalworking fluid, (c) at least one lubricity booster component in the concentration range of 2-10 percent of metal working fluid, (d) an antioxidant component is in the concentration range of 50-500 ppm, (e) a fungicide component in the concentration range of 50-500 ppm, (f) an extreme pressure additive component in the concentration range of 50-500 ppm (g) an antirust component in the concentration range of 50-500 ppm, (h) a co-surfactant component in the range of 1-10 weight percent of metal working fluid, (i) a coupling agent in the range of 0.5 to 10 weight percent of metal working fluid, (j) alkali component in the range of 8-10 weight percent of metal working fluid.

2. (Currently Amended) A composition as claimed in claim 1, wherein the residual component of Alkyl Benzene is an oil component having heavy alkyl benzene of ~~C20—C22~~ C22 - C26 carbon number, a heavy fraction by-product separated from detergent class alkyl benzene during manufacture.

3. (Original) A composition as claimed in claim 1, wherein the emulsifier is selected from the group consisting of heavy alkylate sodium sulfonates, sodium carboxylate, sodium oleate, Triethalonoamine oleate, Diethalonoamine oleate or Dodecyl Toluene sodium sulfonate or mixtures thereof.

1 4. (Original) A composition as claimed in claim 1, wherein the lubricity booster is a
2 vegetable oil selected from the group consisting of karanja oil, neem oil, rice-bran oil, castor
3 oil or mixtures thereof.

1 5. (Original) A composition as claimed in claim 1, wherein the antioxidant component is
2 selected from the group consisting of an alkyl phenol, aromatic amine, substituted alkyl
3 phenol selected from 2,6-ditertiary butyl phenol, 2,6-ditertiary p-cresol, Diphenylamine,
4 Tertiary butyl phenol amino tetrazole and 2,6-diethyl phenylene diamine.

1 6. (Original) A composition as claimed in claim 1, wherein the fungicide component is
2 a phenol or phenolic acid selected from the group consisting of o-cresol, phenol, m-cresol and
3 cresylic acid.

1 7. (Original) A composition as claimed in claim 1, wherein the extreme pressure
2 additive component is an organic sulfide or phosphosulfurized metal salt selected from the
3 group consisting of dibenzyl disulphide, sulfurized vegetable oil, phosphosulfurized decyl
4 oleate molybdate and phosphothio pentadecyl phenol molybdate.

1 8. (Original) A composition as claimed in claim 1, wherein the anti-rust component is
2 a triazole or sulfonate selected from the group consisting of 1H-benzotriazole, ditertiary
3 butylated 1H-Benzotriazole, calcium petroleum sulfonate and calcium heavy alkylate
4 sulfonate.

1 9. (Original) A composition as claimed in claim 1, wherein the co-surfactant
2 component is an alcohol selected from the group consisting of isopropanol, n-butanol, iso-

butanol, iso-amyl alcohol, 2 ethyl hexanol, mono & poly glycol such as di ethylene glycol and tri ethylene glycol.

10. (Original) A composition as claimed in claim 1, wherein the coupling agent component is a sulfonates (molecular weight less than 350) selected from the group consisting of ligno sulfonate, petroleum sulfonate, sodium dodecyl benzene sulfonate and sodium lauryl sulfate.

11. (Previously Presented) A composition as claimed in claim 1, wherein the alkali component is an alkali and alkaline earth metal salt selected from the group consisting of sodium carbonate, sodium hydrogen carbonate, calcium carbonate and calcium oxide.

12. (Currently Amended) A composition as claimed in claim 1, wherein the composition is suitable for use as metal working fluid and general emulsion as admixture with water in concentration range from ~~20 to 80~~ 60 to 90 weight percent.

13. (Original) A process for preparing metalworking fluid as claimed in claim 1, said process comprises the steps of;

- a. removing of insoluble matter from the heavy alkylate followed by addition of emulsifier and vegetable oil to obtain the mixture;
- b. homogenising the resultant mixture at a temperature in the range of 30 to 100°C for about one hour with stirring;
- c. adding the antioxidant, fungicide, extreme pressure additives, anti rust component, cosurfactant, coupling agent, alkali, followed by addition of water to make up the quantity about 1kg, and

d. homogenizing the mixture for about 30 minutes, the pH of the solution was adjusted to 7-9 by addition of sodium carbonate and cooling the resultant metal working fluid at room temperature.

14. (Currently Amended) A process as claimed in claim 13, wherein the residual component of Alkyl Benzene is a oil component having heavy alkyl benzene of ~~C20—C22~~ C22 – C26 carbon number, a heavy fraction, by-product, separated from detergent class alkyl benzene during manufacture.

15. (Currently Amended) A process as claimed in claim 13, wherein the concentration of heavy alkyl benzene component is in the range of ~~50 to 90~~ 40 to 85.68 weight percent of the metalworking fluid.

16. (Original) A process as claimed in claim 13, wherein the emulsifier is selected from the group consisting of heavy alkylate sodium sulfonates, sodium carboxylate, sodium oleate, Triethalonoamine oleate, Diethalonoamine oleate or Dodecyl Toluene sodium sulfonate or mixtures thereof.

17. (Currently Amended) A process as claimed in claim 13, wherein the concentration of emulsifier component is in the range of 10 to ~~[[40]]~~ 37.98 weight percent of the metalworking fluid.

18. (Original) A process as claimed in claim 13, wherein the vegetable oil component for lubricity booster is selected from the group consisting of karanja oil, neem oil, rice-bran oil, castor oil or mixtures thereof.

1 19. (Original) A process as claimed in claim 13, wherein the concentration of vegetable
2 oil component for lubricity boost is in the range of 2 to 10 weight percent of the metalworking
3 fluid.

1 20. (Original) A process as claimed in claim 13, wherein the antioxidant component is
2 selected from the group consisting of an alkyl phenol, aromatic amine, substituted alkyl
3 phenol selected from 2,6-ditertiary butyl phenol, 2,6-ditertiary p-cresol, Diphenylamine,
4 Tertiary butyl phenol amino tetrazole and 2,6-dioctyl phenylene diamine.

1 21. (Currently Amended) A process as claimed in claim 13, wherein the
2 concentration of antioxidant component is in the range of ~~50 to 500 ppm~~ 0.005 to 0.05 weight
3 percent.

1 22. (Original) A process as claimed in claim 13, wherein the fungicide component is a
2 phenol or phenolic acid selected from the group consisting of o-cresol, phenol, m-cresol and
3 cresylic acid.

1 23. (Currently Amended) A process as claimed in claim 13, wherein the concentration of
2 fungicide component is in the range of ~~50 to 500 ppm~~ 0.005 to 0.05 weight percent.

1 24. (Original) A process as claimed in claim 13, wherein the extreme pressure additive
2 component is an organic sulfide or phosphosulfurized metal salt selected from the group
3 consisting of dibenzyl disulphide, sulfurized vegetable oil, phosphosulfurized decyl oleate
4 molybdate and phosphothio pentadecyl phenol molybdate.

1 25. (Currently Amended) A process as claimed in claim 13, wherein the concentration of
2 extreme pressure additive component is in the range of ~~50 to 500 ppm~~ 0.005 to 0.05 weight
3 percent.

1 26. (Original) A process as claimed in claim 13, wherein the anti-rust component is a
2 triazole or sulfonate selected from the group consisting of 1H-benzotriazole, ditertiary
3 butylated 1H-Benzotriazole, calcium petroleum sulfonate and calcium heavy alkylate sulfonate.

1 27. (Currently Amended) A process as claimed in claim 13, wherein the
2 concentration of ant-rust component is in the range of ~~50 to 500 ppm~~ 0.005 to 0.05 weight
3 percent.

1 28. (Original) A process as claimed in claim 13, wherein the co-surfactant component
2 is a alcohol selected from the group consisting of isopropanol, n-butanol, iso-butanol, iso-amyl
3 alcohol, 2 ethyl hexanol, mono & poly glycol such as di ethylene glycol and tri ethylene
4 glycol.

1 29. (Original) A process as claimed in claim 13, wherein the concentration of co-
2 surfactant component is in the range of 1 to 10 weight percent of the metalworking fluid.

1 30. (Currently Amended) A process as claimed in claim 13, wherein the coupling
2 agent component is a sulfonates (molecular weight less than 350) selected from the group
3 consisting of calcium ligno sulfonate, sodium petroleum sulfonate, sodium dodecyl benzene
4 sulfonate and sodium lauryl sulfate.

31. (Currently Amended) A process as claimed in claim 13, wherein the concentration of coupling agent component is in the range of 0.5 to ~~[[10]]~~ 1.0 weight percent of the metalworking fluid.

32. (Previously Presented) A process as claimed in claim 13, wherein the alkali component is an alkali and alkaline earth metal salt selected from the group consisting of sodium carbonate, sodium hydrogen carbonate, calcium carbonate, calcium oxide.

33. (Currently Amended) A process as claimed in claim 13, wherein the concentration of alkali component is in the range of 0.5 to ~~[[8]]~~ 1.0 weight percent of the metalworking fluid.

34. (New) A metalworking fluid from heavy alkylate, comprising;

(a) residual fraction having C22 – C26 carbon atom of detergent class Alkyl Benzene in the concentration range of 50 to 90 weight percent of the metal working fluid, (b) an emulsifier selected from the group comprising heavy alkylate sodium sulfonates, sodium carboxylate, sodium oleate, Triethalonoamine oleate, Diethalonoamine oleate or Dodecyl Toluene sodium sulfonate or mixtures thereof, in the range of 10 to 37.98 w% of the metalworking fluid, (c) at least one lubricity booster component in the concentration range of 2-10 percent of metal working fluid, (d) an antioxidant component is in the concentration range of 50-500 ppm, (e) a fungicide component in the concentration range of 50-500 ppm, (f) an extreme pressure additive component in the concentration range of 50-500 ppm (g) an antirust component in the concentration range of 50-500 ppm, (h) a co-surfactant component in the range of 1-10 weight percent of metal working fluid, (i) a coupling agent in the range of 0.5 to 10 weight percent of

13 metal working fluid, (j) alkali component in the range of 8-10 weight percent of metal working
14 fluid.